



On the (im-)possibilities of defining human climate thresholds

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Abstract:

The aim of this study is to explore the way climate creates thresholds within society. Both human physiology and the human mind determine when and where climate can trigger and influence human activities. By presenting a stimulus-response model, deliberate weather- and climate- related decisions (e.g. migration, clothing) and physiological responses in daily life (e.g. sweating) are placed in a broader theoretical context. While physiological thresholds can be described quantitatively to a certain extent, subjective thresholds may be illustrated in a predominantly qualitative manner through surrogates (surveys on wants or needs). Examples from the literature on climate thresholds for humans highlight the complexity of the issue: People have different thresholds, as they do not necessarily respond to the same stimuli in the same way. At the same time, given the same stimulus, an individual may perceive it, and thus react, differently at different times in their life. In many cases, the threshold rather specifies a bandwidth or transition zone than a particular point. The level of acceptance and the cultural, technological and genetic aspects of adaptation will decide how climate may influence human well-being and contribute in setting limits to society, for example where to live, what impacts to expect, and when and what decisions to take. Knowledge of the complexity of human thresholds can be an important supplement to the analysis of peoples' vulnerability to climate change. When populations are vulnerable and thresholds are exceeded, only then will there be a measurable response.

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Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Quality, Food/Water Security, Food/Water Security, Glacier/Snow Melt, Human Conflict/Displacement, Meteorological Factors, Precipitation, Temperature

Extreme Weather Event: Flooding, Hurricanes/Cyclones

Food/Water Security: Food Access/Distribution, Nutritional Quality

Climate Change and Human Health Literature Portal

Temperature: Extreme Cold, Extreme Heat, Fluctuations

Geographic Feature: ☐

resource focuses on specific type of geography

General Geographical Feature

Geographic Location: ☐

resource focuses on specific location

Global or Unspecified

Health Impact: ☐

specification of health effect or disease related to climate change exposure

Cardiovascular Effect, Mental Health/Stress, Morbidity/Mortality, Respiratory Effect, Other Health Impact

Other Health Impact: Well-being

Mitigation/Adaptation: ☐

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☐

format or standard characteristic of resource

Research Article, Review

Resilience: ☐

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: ☐

time period studied

Time Scale Unspecified